Flight-Testing Newton's Laws			
2009 Mathematics			
Standards of Learning			
Virginia Mathematics			
Grades 9-12 (Algebra I)			
Activity/Lesson	**State**	**Standards**	
Session-10 (1-5)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-10 (1-5)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-10 (1-5)	VA	MA.9-12.A.8	The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.
Session-1 (1-17)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-1 (1-17)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-1 (1-17)	VA	MA.9-12.A.11	The student will collect and analyze data, determine the equation of the curve of best fit in order to make predictions, and solve real-world problems, using mathematical models. Mathematical models will include linear and quadratic functions.
Session-2 (1-10)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-2 (1-10)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-2 (1-10)	VA	MA.9-12.A.8	The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.
Session-3 (1-6)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;

Session-3 (1-6)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-4 (1-11)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-4 (1-11)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-4 (1-11)	VA	MA.9-12.A.8	The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.
Session-5 (1-6)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-5 (1-6)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-5 (1-6)	VA	MA.9-12.A.8	The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.
Session-6 (1-8)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-6 (1-8)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-6 (1-8)	VA	MA.9-12.A.8	The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.
Session-7 (1-5)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;

Session-7 (1-5)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-7 (1-5)	VA	MA.9-12.A.8	The student, given a situation in a real-world context, will analyze a relation to determine whether a direct or inverse variation exists, and represent a direct variation algebraically and graphically and an inverse variation algebraically.
Session-8 (1-9)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-8 (1-9)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Session-9 (1-7)	VA	MA.9-12.A.4.a	The student will solve multistep linear and quadratic equations in two variables, including solving literal equations (formulas) for a given variable;
Session-9 (1-7)	VA	MA.9-12.A.4.f	The student will solve multistep linear and quadratic equations in two variables, including solving real-world problems involving equations and systems of equations.
Flight-Testing Newton's Laws			
2009 Mathematics			
Standards of Learning			
Virginia Mathematics			
Grades 9-12 (Algebra, Functions, and Data Analysis)			
Activity/Lesson	**State**	**Standards**	
Session-10 (1-5)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-1 (1-17)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-2 (1-10)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.

Session-4 (1-11)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-5 (1-6)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-6 (1-8)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-7 (1-5)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-8 (1-9)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Session-9 (1-7)	VA	MA.9-12.AFDA.4	The student will transfer between and analyze multiple representations of functions, including algebraic formulas, graphs, tables, and words. Students will select and use appropriate representations for analysis, interpretation, and prediction.
Flight-Testing Newton's Laws			
2009 Mathematics			
Standards of Learning			
Virginia Mathematics			
Grades 9-12 (Algebra II and Trigonometry)			
Activity/Lesson	**State**	**Standards**	
Session-10 (1-5)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;

Session-10 (1-5)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-1 (1-17)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-1 (1-17)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-2 (1-10)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-2 (1-10)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-3 (1-6)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-3 (1-6)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-4 (1-11)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-4 (1-11)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-5 (1-6)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;

Session-5 (1-6)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-6 (1-8)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-6 (1-8)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-7 (1-5)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-7 (1-5)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-8 (1-9)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-8 (1-9)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.
Session-9 (1-7)	VA	MA.9-12.AII/T.1.b	The student, given rational, radical, or polynomial expressions, will add, subtract, multiply, divide, and simplify radical expressions containing rational numbers and variables, and expressions containing rational exponents;
Session-9 (1-7)	VA	MA.9-12.AII/T.10	The student will identify, create, and solve real-world problems involving inverse variation, joint variation, and a combination of direct and inverse variations.